IN THE UNITES STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA, Plaintiff, v. ALLEGHENY LUDLUM CORPORATION, Defendant.	)))))))))	Civil Action 95-990

MEMORANDUM OPINION

Cindrich, District Judge

February 19, 2002

I. Introduction

This is an action by the United States for civil penalties for violations of the Clean Water Act, 33 U.S.C. §§ 1311, 1317 ("the Act"). The case covers five western Pennsylvania steel plants owned and operated by defendant Allegheny Ludlum Corporation ("ALC"), one of the few remaining steelmakers in the area. The plants are grouped for compliance purposes as the Vandergrift Facility, the Brackenridge Facility (consisting of the Brackenridge and Natrona Plants), and the West Leechburg Facility (consisting of the West Leechburg and Bagdad Plants). See Joint Stipulation of Facts, Doc. No. 269. After a lengthy period of litigation, including a trial before a jury, the court finds that ALC has violated the Act in ways that justify a significant penalty.

ALC manufactures stainless and specialty steel. Steelmaking requires large amounts of water, which ALC plants draw from adjacent rivers, the Allegheny and the Kiskiminetas, or Kiski. ALC uses the river water in two ways: as process water and non-contact cooling water. Process water is used directly in production and makes contact with steel or steelmaking equipment. Process water becomes contaminated and is collected and treated in ALC's treatment plants before being returned to the river. Non-contact cooling water, as its name implies, flows through pipes and vessels that are physically separated from direct contact with steel in production. Such water provides a medium by which heat is transferred away from the hot metal and surrounding equipment.

The steelmaking process generates a considerable amount of pollutants which must be monitored and controlled pursuant to the Clean Water Act. The Act prohibits the discharge of any pollutants into the navigable waters of the United States, except as expressly authorized under the Act. 33 U.S.C. § 1311(a). The Act provides for the administration of the National Pollution Discharge Elimination System ("NPDES") to regulate pollution. The NPDES authorizes the U.S. Environmental Protection Agency to issue permits regulating the release of pollutants. Id. § 1342(a). States may participate in pollution regulation under the Act. Id. § 1342(b); see generally PIRG v. Hercules, Inc., 50 F.3d 1239, 1242 (3d Cir. 1995). Through this system, the Commonwealth of Pennsylvania also regulates pollution discharged by ALC.

ALC had been operating the Brackenridge and West Leechburg plants when it purchased the Vandergrift facility in 1988. From 1988 until 1998, the Vandergrift plant discharged its wastewater to the Kiski Valley sewage treatment plant, which itself discharged into the Kiski River. ALC's West Leechburg plant discharges directly into the Kiski River. The Brackenridge plant discharges into the Allegheny River.

This case was filed in June 1995. The government's claims are divided into three categories. The first is reported claims, or claims that arise out of reports of monitoring that ALC is obligated under the Act to prepare and submit to state and federal environmental authorities. The second category is interference claims, or claims that arise out of problems with discharges that ALC sent to the Kiski Valley sewer plant, and which interfered with the sewer plant's ability to comply with its own environmental obligations. The third type is unreported claims, or claims that arise out of the government's own investigation of ALC's failure to comply with the Act.

After two amended complaints and a lengthy period of pretrial preparation, the court decided cross-motions for summary judgment. By decision dated September 28, 2000, the court denied each party's summary judgment motion with respect to the unreported and interference claims. Doc. No. 216 (reported at United States v. Allegheny Ludlum Corporation, 118 F. Supp.2d 615 (W.D. Pa. 2000)). The court also rejected certain ALC defenses to liability on reported claims and entered summary judgment for 832 violations in favor of the United States. ALC admitted liability to 119 violations. See Stipulation Concerning Claims of Reported Violations, Doc. No. 215.

The court conducted a jury trial on liability from January 5 to February 2, 2001. During trial, the court granted the United States' motion for judgment as a matter of law on ALC's affirmative defense of upset relating to the Vandergrift Facility, involving 165 violations. The jury returned a verdict in favor of ALC on all the interference and unreported claims. The jury also returned a verdict for ALC on 6 of the 12 reported claims relating to the Brackenridge and West Leechburg Facilities, and in favor of the United States on the other 6 claims. ALC thus has been found liable for 1,122 days of violations of the Act at its Vandergrift, Brackenridge and West Leechburg plants during the period from July 1990 through February 1997. Plaintiff's Exhibit P-1 and P-1A.[1]

[1] The court granted summary judgment for the plaintiff on reported violations by Memorandum and Order of September 28, 2000 and by Rule 50 motions for judgment as a matter of law on January 31, 2001. Trial Transcript for 1/31/2001, Doc. No. 316, at 14-15. By Memorandum Order of January 4, 2001, the court granted plaintiff's motion in limine and ruled, consistent with majority and Third Circuit precedent, that all violations of the monthly average parameters of defendant's NPDES permits shall be counted as violations equal in number to all the days in the monitored month, and further that violations of multiple permit parameters by a single incident would be counted as separate violations, since each permit parameter serves a different purpose. Doc. No. 275; see, e.g., Public Interest Research Group of New Jersey, Inc. v. Powell Duffryn Terminals, Inc., 913 F. 2d 64, 78-79 (3d Cir. 1990). The parties entered into a Stipulation Concerning Claims of Reported Violations (Doc. No 215), which the court referenced

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After the jury verdict on liability, the Court conducted a non-jury penalty trial, from February 5 to 8, 2001. Testimony by experts at this phase of the trial was submitted by written proffer with live cross-examination.

The assessment of civil penalties for these violations as sought by the United States is governed by 33 U.S.C. § 1319(d). Section 1319(d) provides that the violator of a permit issued pursuant to the Act shall be subject to a civil penalty not to exceed $25,000 per day for each violation. This penalty provision further states that in assessing the penalty, the court shall consider the following factors:

> the seriousness of the violation or violations, the economic benefit (if any) resulting from the violation, any history of such violations, any good-faith efforts to comply with the applicable requirements, the economic impact of the penalty on the violator, and such other matters as justice may require.

33 U.S.C. § 1319(d).

It should be noted that, in addition to the 1,122 days of violations for which defendant has been found liable in this case, ALC settled an additional 990 days of violation with the Pennsylvania Department of Environmental Protection ("PaDEP") in consent decrees signed in 1992 and 1993. Plaintiff's Exhibit P-2 and P-3. As explained below, these violations may properly be considered in the court's penalty calculations.

This decision constitutes the Court's findings of fact and conclusions of law based on evidence from both the liability and penalty trials. It is drawn largely from proposed decisions submitted by the parties.

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on page 2 of its September 28, 2000 summary judgment ruling. In addition, the jury returned its findings of liability on February 2. Defendant's violations of the Clean Water Act, as derived from the parties' stipulations, the court's Orders of September 28, 2000, January 4, 2001, January 31, 2001, and the jury verdict returned on February 2, are summarized on Plaintiff's Exhibits P-1 and P-1A, which we hereby adopt as accurate.

II. Penalty Factors

A. The Seriousness of the Violations

The United States Court of Appeals for the Third Circuit approved a formula for assessing the seriousness of Clean Water Act violations that accounted for the number of violations, the amount that discharges exceeded permit limits, and the toxicity of pollutants discharged. Public Interest Research Group of New Jersey, Inc. v. Powell Duffryn Terminals, Inc., 913 F.2d 64, 79 (3d Cir. 1990). A sister court in this circuit applied similar standards in examining the number, frequency, and degree of the violations in a highly relevant case. United States v. Municipal Auth. of Union Twp., 929 F. Supp. 800, 807 (M.D. Pa. 1996), aff'd on other grounds, 150 F.3d 259 (3d Cir. 1998) (each referred to as "Dean Dairy").

With regard to the number of violations, 386 violations over a seven year period was considered a large number by the Third Circuit in Powell Duffryn -- a number reached, incidentally, after the public interest plaintiffs waived review of whether the district court undercounted violations by listing violations of the monthly average limit for discharges as one offense rather than thirty. 913 F.2d at 79 n. 29. For the sake of comparison, the district court in Dean Dairy found that the permittee committed a total of 2,360 violations over six years, a number the court characterized as "very large." 929 F. Supp. at 807. ALC has been found liable for 1,122 days of violation over the course of about six and a half years. This is a substantial number and frequency of violations.

With regard to the magnitude of the violations and their toxicity, these cases provide useful reference points. The vast majority of the 2,360 days of violation in Dean Dairy were violations of the discharge limits on conventional pollutants in defendant Fairmont's discharge permit to the local treatment plant. Dean Dairy, 929 F. Supp. at 803. These conventional pollutants, known as total

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suspended solids ("TSS") and biological oxygen demand ("BOD"),[2] were produced by the daily cleaning of the equipment used to make sour cream, cottage cheese, yogurt, and ice cream. Dean Dairy, 929 F. Supp. at 807-808. By contrast, many of ALC's violations involve toxic pollutants, not conventional pollutants such as TSS and BOD. Toxic pollutants generally pose a greater threat to human life. Id. In Powell Duffryn, the district court found 10 violations of toxic pollutant limits to be serious. 913 F.2d at 79. Here, the court has found ALC liable for 893 days of violations of toxic pollutant limits.

Furthermore, the district court and the Third Circuit found in Powell Duffryn that the magnitude by which the defendant exceeded its permit limits also made its violations serious. Powell Duffryn, 913 F.2d at 79; Powell Duffryn, 720 F. Supp. at 1161. In the current case, ALC exceeded its permit limits by at least 1,000% for 180 days, as compared to 86 such days found by the Court in Powell Duffryn, 720 F. Supp. at 1161. In February 1993, ALC exceeded its monthly average chromium limit by more than 4,000%. Plaintiff's Exhibit P-1A.

ALC's environmental conduct has reached other extremes. One notorious ALC oil spill, on July 1, 1994, spread from West Leechburg nearly 30 miles downstream to the Point at Pittsburgh. The U.S. Coast Guard followed the oil sheen by helicopter from the Point up the Allegheny, and traced it to the West Leechburg facility on the Kiski River. Trial Transcript for 2/6/2001, Doc. No. 320, at 10. PaDEP and the Coast Guard estimated that the oil must have been flowing for nearly a day to have reached that far downstream. Trial Transcript for 2/5/2001, Doc. No, 319, at 145. When the Coast Guard arrived, ALC was unaware of the spill and had failed to install containment booms

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[2] See Natural Resources Defense Council v. Texaco Refin'g and Mktg., Inc., 800 F. Supp. 1, 6 (D. Del. 1992) (Roth, J.), aff'd in part, rev'd in part, 2 F.3d 493 (3d Cir. 1993), for definitions of these substances and their effect on the environment.

or to report it. Even though the spill was miles long, and ALC was told by the Coast Guard about the spill, ALC eventually reported the spill as a "small quantity of water containing oil" being discharged. Plaintiff's Exhibit P-24.

ALC's failure to timely report spills potentially put public drinking water at risk. The Allegheny County Health Department, which is charged with the task of maintaining the safety of County drinking water, repeatedly complained that ALC's failure to report spills hindered its ability to give notice to local water authorities so that they could close drinking water intakes or take other measures before spills reached them. Trial Transcript for 2/5/2001, Doc. No, 319, at 135-137 and 143-144; Trial Transcript for 2/8/2001, Doc. No. 322, at 204-209.

Moreover, there is persuasive evidence that ALC's violations likely caused harm to the river. We should first note that the government has not shown actual harm from ALC's discharges. In recognition of the difficulty of proving harm where the violation is usually temporally distant from the penalty, however, and the science is incomplete, a particularized showing of actual harm is not necessary. "[B]ecause actual harm to the environment is by nature difficult and sometimes impossible to demonstrate, it need not be proven to establish that substantial penalties are appropriate in a Clean Water Act case." Dean Dairy, 929 F. Supp. at 807. A court may impose a significant penalty if it finds there is a risk or potential risk of environmental harm, even absent proof of actual deleterious effect. United States v. Smithfield Foods, Inc., 972 F. Supp. 338, 344 (E.D. Va. 1997), aff'd in part, rev'd in part, 191 F.3d 516 (4th Cir. 1999), cert. denied, 531 U.S. 813 (2000);[3] Texaco, 800 F. Supp. at 24 (penalties permissible where potentially destructive environmental

[3] In Smithfield the district court characterized as "cavalier" the defendant's arguments that it caused no actual harm, and that the affected river would still be environmentally unsafe even if it fully complied with its permit. The court instead adopted the approach that a polluter cannot escape liability by pointing to others' violations. 972 F. Supp. at 342 n. 8.

impact). In Powell Duffryn, the Third Circuit upheld the district court's finding that the defendant's violations were serious, even absent a showing of actual harm linked to the defendant's discharges.

The government called as its expert in aquatic toxicology Dr. Jerome Diamond, who specializes in studies of fresh water rivers and streams. He stated that the toxic metals in the violations in this case are designated as priority pollutants, similar to the pollutants given weight by the court in Powell Duffryn, including chromium, copper, zinc and nickel. Diamond Proffer at 6. The record shows that the metals discharged by ALC can be toxic in small concentrations of only parts per billion, although ALC released toxic discharges of chromium on eight occasions in concentrations of parts per million. Dr. Diamond stated that ALC's closely spaced outfalls, the multiple and recurring violations within a relatively short time frame, and the synergistic effect of metals and pH violations, all combined to pose multiple stresses, the cumulative effect of which were more difficult for aquatic life to withstand.[4]

ALC's expert, Dr. Lawrence Barnthouse, does not directly disagree with the documented scientific literature, but contends instead that the data are incomplete, and that no definitive conclusion can be reached concerning whether the anticipated effects occurred as a result of ALC's violations. Dr. Barnthouse does not analyze the toxicological properties of the pollutants, but instead looks at the mass loading of ALC's discharges of metals, TSS, and oil and grease over nine years, relative to the full load allowed by its permit limits. Barnthouse Proffer at 3; Figure 3. Dr. Barnthouse's analysis downplays the high concentration violations by averaging them with low concentration discharges over many years. The court finds persuasive Dr. Diamond's response that this analysis overlooks the likely toxicological effect of ALC's violations; it is analogous to arguing that consuming five gallons of alcohol in a single day is not harmful because on average the daily

4 See, e.g. Diamond Proffer at 9 and 11; Figures 6 and 8.

consumption over seven years is within acceptable limits. Diamond Proffer at 15.

B. History of the Violations And Good Faith Efforts to Comply.

Two statutory penalty factors, the defendant's "history of violations" and its "good-faith efforts to comply," appropriately may be considered together because they combine the problems the Act addresses with the defendant's reaction to these problems.

1. History of Violations

ALC's 1,122 days of Clean Water Act violations span the years 1990-1997. See Plaintiff's Exhibit P-1. Seven years is comparable to the time spans of violations in other cases where district courts have imposed significant civil penalties under the Act. See, e.g., Powell Duffryn, 913 F.2d at 68 (six years); Smithfield, 972 F. Supp. at 349 (six years); Dean Dairy, 929 F. Supp. at 807 (six years).

In addition, ALC's history of violations extends back at least to the 1980's. As found above, ALC settled almost a thousand Clean Water Act violations with PaDEP in administrative actions. The court considers pollution incidents reported by PaDEP inspectors but not included in the allegations in this case, and the violations resolved by PaDEP consent orders, to fall within the broad range of information available for assessing ALC's history of Clean Water Act violations. See Smithfield, 972 F. Supp. at 349; Dean Dairy, 929 F. Supp. at 807. If we are to consider "any history of violations," as the Act requires, there is no sound reason to exclude any previous violations, even ones that are settled. The permittee's complete history of compliance with the Act affords the most useful picture for setting a current penalty.

2. Good Faith Efforts to Comply

ALC contends that its compliance record in years since the lawsuit was filed, the substantial amount it has spent on environmental compliance in that time, and an uncontested record of keeping commitments to regulatory agencies demonstrate good faith. Certainly there is evidence to be weighed on ALC's side of the scale. Overall, however, the case has not reached this level of enforcement without serious questions about the level of ALC's commitment to the obligations imposed by the Act.

With regard to figures about its operations, several examples demonstrate this trend. ALC failed to make timely upgrades to its wastewater treatment plants ("WWTP") at its Vandergrift and West Leechburg plants, despite serious violations at both discharge points. Defendant spent $17 million at Vandergrift to upgrade a production line between September 1990 and March 1991. This investment almost doubled its output of steel. While improving production, however, ALC did not similarly upgrade its wastewater treatment plants. In 1994, when it was ready to install a second production line, the company finally put a modern wastewater treatment plant into Vandergrift. The company's decision to continue using the 1988 equipment until 1994 resulted in 571 days of permit violations, including extremely large exceedances of limits on toxic metals. Plaintiff's Exhibit P-1 and P-1A.

ALC also delayed an upgrade of its 1973 wastewater treatment plant at West Leechburg. There were 599 days of violation at two outfalls between 1990 and 1993. Plaintiff's Exhibit P-2 and P-3. PaDEP and ALC entered into a consent order in October 1993, obligating ALC to fix the plant. Trial Transcript for 2/5/2001, Doc. No. 319, at 111, 113. ALC ultimately spent about $2.6 million under the consent order to upgrade the plant. Proffer of Gary Amendola at 6.

The company was aware of its violations of the Act, because it had to report them on its monthly discharge monitoring reports ("DMRs") or, in the case of spills, on contemporaneous incident reports. ALC's current Director of Environmental Affairs, Deborah Calderazzo, testified that she knew the frequency with which Vandergrift was violating its permit limits during the years

1990-1994 and met often with management throughout this period. Trial Transcript for 2/8/2001, Doc. No. 322, at 174-183.

Calderazzo's testimony is confirmed by "talking points" written by then ALC Vice President Douglas Kittenbrink, the current president of the company, for a series of presentations to ALC staff in 1995. The January 1995 outline by Kittenbrink to accompany presentations he made to ALC employees at West Leechburg, Brackenridge, and elsewhere (Trial Transcript for 2/8/2001, Doc. No. 322 at 169-71) poses the question to ALC's employees, "what is so important about compliance? We've never had to worry about it before." (Emphasis added). Mr. Kittenbrink's outline stressed increased agency enforcement, increasingly punitive enforcement, and growth in criminal prosecutions as key reasons to focus on environmental compliance. Id.

The court also finds that ALC significantly increased expenditures for spill prevention and control projects only in 1995 and 1996 when enforcement increased. ALC's annual spill prevention and control spending was relatively low from 1990 to 1994, especially given ALC's record of spills, but more than doubled in 1995 and more than quadrupled in 1996. Plaintiff's Exhibit P-1085; Amendola Proffer at 18-19.

Indeed, it is especially difficult for the court to agree with ALC's contention that it consistently had a proactive environmental program when it vigorously argued in the liability phase, and the jury expressly found, that its pH monitoring data from its two acid rinse treatment plants was so unreliable that the data could not show whether ALC's discharges of process water to the river was below or above the permit limits for pH. See, e.g., Trial Transcript for 1/25/2001, Doc. No. 313, at 155. Particularly in light of testimony regarding the potentially toxic effect of discharges of wastewaters at extreme pH, ALC's evidence of poor operation and maintenance of probes that were installed to provide important information concerning ALC's compliance with pH limits does not support ALC's claim that it was proactive in the early to mid 1990's, or that its treatment plants were well-operated and maintained. ALC witnesses repeatedly pointed in the liability phase of the case to "SEPs," or standard environmental procedures, implemented only in 1996 and later and discussed in the 1995 Kittenbrink outline, to claim that current maintenance procedures were vastly improved from the early 1990's. Id. at 150-154.

In contrast to ALC's claims of a proactive program, Gregg Eckstein, ALC's Director of Environmental Affairs until April 1994,[5] retained revealing internal documents and kept handwritten notes concerning instances where he disagreed with the company position concerning what steps to take to address ongoing violations, and whether or not to report a violation. These notes and documents, kept from the late 1980's through 1994, portray a corporate management and legal department that is recalcitrant, reactive and loathe to fully disclose its problems. The ALC portrayed in the Eckstein documents and testimony for this period is more consistent with the company described by the witnesses from the regulatory community, summarized below, than with the proactive company described by Calderazzo.

Lieutenant Commander John Meehan worked in the Pittsburgh District of the United States Coast Guard from 1992 to 1995. Commander Meehan testified that ALC's Brackenridge facility was "in the highest echelon of risk in terms of the number of spills that they were experiencing." Trial Transcript for 2/6/2001, Doc. No. 320, at 18. He stated that spills at Brackenridge were so common in 1993 and 1994 that he had directed his officers to stop at the plant on their routine

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[5] Eckstein was demoted in April 1994 and resigned from the company in January 1995. Eckstein Deposition at 26-27. Eckstein was outside the court's jurisdiction and therefore his testimony was through deposition. The court notes that Eckstein took pains to include corroborating documents, both internal and external, to support his notes and testimony. The record also shows that during his employment, Eckstein worked closely with ALC's legal department and in-house counsel, and with his supervisor. Trial Transcript for 2/5/2001, Doc. No. 319, at 177-178.

patrols. Id. at 10. Despite the attention given to the Brackenridge facility by the Coast Guard, the situation did not improve during this period:

> I wouldn't say it was just the number of incidents, but the fact that there hadn't been any progress made in decreasing the frequency of these incidents. We were still having problems after a couple of years up there, and we didn't see anything proactive being done to stop the oil spills.

Id. at 18. Commander Meehan stated that during his tour of duty in Pittsburgh he was responsible for regulating 400 companies (id. at 23), including other steel companies that operated their plants without ongoing oil sheens and spills. Id. at 44. ALC was at "the lowest rung" in terms of the company's willingness to conclusively address its record of spills and discharges. Id. at 22.

Terry Pallas, a manager of monitoring and compliance for the Pennsylvania Department of Environmental Protection since 1988 (Trial Transcript for 2/5/2001, Doc. No. 319, at 107), testified that the Commonwealth's experience with ALC was similar to the Coast Guard's. When asked about the number of incidents at Allegheny Ludlum plants in the early to mid-1990's, Mr. Pallas testified that the company did not have an effective spill prevention program. The result was a period of spills sometimes once a week, and over fifty in a two-year period. Id. at 131-32. He also testified that ALC was worse than comparable steel mills and major dischargers. Id. at 142.

Gerald Greiner, who worked for the Pennsylvania Fish and Boat Commission from 1969 until 1999, testified (by deposition) consistently with Meehan and Pallas. Greiner stated that he investigated ALC facilities about 100 times (Greiner Dep. at 95), and that "every damn time I turned around there was a spill." Id. at 145. On one occasion Greiner observed dead fish directly below the discharge from an ALC outfall, and, using a portable pH probe, found the pH at the outfall to be near 3.0 standard units, which "would definitely kill fish." Greiner Dep. at 178-79. Mr. Greiner testified that it was "very, very rare" for ALC to notify him of an incident (id. at 79, 80-83), and that when he confronted company officials about an incident, they would frequently deny that they were the cause, despite clear evidence to the contrary. Id. at 84-85, 137-38, 225-26, 263-64, 271-76.

In addition to these state and Coast Guard officials, local citizens from the boating community also testified about the repeated oil discharges and spills from the Brackenridge facility to the Allegheny River, which impeded boating, swimming, and other recreational uses of the river. These citizens regularly traced the oil back to Brackenridge outfalls by boat, and reported the spills to the appropriate agencies. Trial Transcript for 2/5/2001, Doc. No. 319 at 86-89; Romick Dep. at 17-21.

ALC argues that this testimony should be dismissed as conclusory subjective characterizations of its compliance efforts, but there is no principled basis for the court to do so. First, it is consistent across a number of agencies and individuals, including a former ALC environmental employee. It stands as a considerable body of evidence that Calderazzo, an interested witness to the contrary, cannot match. Second, the agency witnesses had no ax to grind against the company. Indeed, when ALC makes the favorable point about its record of promises kept to regulatory agencies, it cites the testimony of these very witnesses. In short, we accept the sum of the testimony of these witnesses as credible and persuasive.

The evidence shows that defendant's violations of the Clean Water Act continued until defendant decided to stop them. If the attitude that began to prevail in the company in 1994 or 1995 -- in the face of heightened enforcement and scrutiny -- had existed in 1988, then most of the violations at issue in this lawsuit would not have occurred. Defendant's breaches were not due to a lack of knowledge; employees self-reported their frequent violations and appear to have had conversations concerning their violations on almost a weekly basis with state and federal enforcement authorities, as well as local citizens who used the rivers. Nor were defendant's violations due to a lack of necessary technology, or to a lack of financial resources. The court can only conclude that the violations continued because defendant did not consider compliance with the Act a priority. It appears that throughout the years in question, ALC only reacted to regularly recurring problems, implementing corrective action after ALC became aware of exceeding its permit limits, and seldom taking steps to prevent violations.

C. Economic Benefit

A critical component of any penalty analysis under the Clean Water Act is the economic benefit enjoyed by a permittee as a result of violating the law. The goal of economic benefit analysis is to prevent a violator from profiting from its wrongdoing. Dean Dairy, 150 F.3d at 263. Failures to comply with the Act can go straight to a permittee's bottom line by, for example, environmental expenditures not made. They can also result in indirect competitive benefits when compared with companies in the same field that do comply with the Act. As stated by the Third Circuit, "[c]ourts use economic benefit analysis to level the economic playing field and prevent violators from gaining an unfair competitive advantage." Id. at 263-64 (quoting Smithfield, 972 F. Supp. at 348).

A key point that the Third Circuit has firmly recognized in examining economic benefit analysis is that "a violator's economic benefit under the Clean Water Act may not be capable of ready determination." Dean Dairy, 150 F.3d at 264. The court of appeals' review in Dean Dairy of its opinion in Powell Duffryn, legislative history, Supreme Court precedent, and decisions of other courts, establishes that a plaintiff may make a reasonable approximation of economic benefit to the violator, without elaborate or comprehensive proof, to successfully meet its burden. A court may exercise its discretion under the Act in accepting proof that is imprecise and approximate at best.

With these principles in mind, we conclude that ALC obtained an economic benefit in this case of $4,122,335. First, ALC avoided spending the money required to adequately staff its

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wastewater treatment plants between 1990 and 1994. Second, ALC delayed making necessary expenditures to improve the wastewater treatment plant at its Vandergrift facility. Finally, ALC delayed spending money on a number of capital projects at its facilities.[6]

1. Avoided Staffing Costs

The largest component of ALC's economic benefit -- $2,371,000 -- derives from its decision concerning staffing of its wastewater treatment plants. From 1990 until late 1994, ALC did not have 24-hour staffing at four of the six WWTPs at issue. Even though ALC operated the manufacturing lines at those four plants 24 hours a day, 7 days a week, ALC did not have operators present at the WWTPs at all times. Instead, ALC had operators present during certain shifts, primarily daylight, and had other employees stop by on occasion. ALC enjoyed an economic benefit because it was able to spend less money to staff its facilities.[7]

The United States called Gary Amendola as an expert on avoided costs. Amendola has 30 years of experience in the environmental field that includes working for and as a consultant to EPA,

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6 As we explain infra, it is necessary to use an appropriate discount rate to estimate the actual economic benefit to ALC. The $4,122,335 figure includes the application of an appropriate discount rate.

7 Plaintiff's expert, Gary Amendola, explained in his proffer that he calculated the economic savings enjoyed by ALC by comparing average annual staffing costs between 1995-1997, when ALC had 24-hour staffing, with the actual costs during the years when ALC did not have 24-hour staffing costs. Amendola Proffer at 17-18 and Plaintiff's Exhibit P-1084. Amendola also testified that he had plaintiff's accounting expert, Robert Harris, adjust the 1995-1997 costs to account for inflation and annual changes in labor rates. Amendola Proffer at 17.

In making his calculations Amendola made two assumptions that were favorable to defendant. First, he included in ALC's actual staffing costs time billed by maintenance workers who stopped by the facility, even though having a maintenance worker stop by is not the same as having full-time staffing. Amendola Proffer at 17. Second, Amendola's calculations do not include money saved by ALC at its West Leechburg and Brackenridge facilities prior to entry of the consent agreements with PaDEP. Amendola Proffer at 17.

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as well as working as a consultant for several major steel companies. He adequately explained the benefits to ALC's pollution control efforts that would have resulted from 24-hour staffing. Amendola Proffer at 14-15. He also described a survey he made showing that more than 90% of comparable steel industry WWTPs had 24-hour staffing during 1990-1995. Id. at 5-16; Plaintiff's Exhibit P-1083.

The memos written by Douglas Kittenbrink, and defendant's improved compliance record after 1995, essentially confirm the validity of Amendola's analysis. Kittenbrink called for 24-hour staffing at each of the four WWTPs for which Amendola calculated avoided costs. ALC's violations largely came to a halt after it adopted 24-hour staffing.

ALC offers three main arguments as to why we should reject Amendola's analysis, but we do not find those reasons persuasive. First, ALC contends that the number of violations "in the case" at some of the facilities without 24-hour staffing was small. For example, ALC contends that at West Leechburg Outfalls 108, which is linked to one of the facilities at issue for staffing, there were no violations "in the case" for which liability has been established. Trial Transcript for 2/8/2001, Doc. No. 322, at 121. ALC's analysis is misleading because there were 599 days of violations at Outfall 108 and 008 between 1990 and November 1993 that were the subject of a PaDEP consent agreement, (Plaintiff's Exhibit P-2), and several violations at Outfall 108 in this case that full-time staffing might have eliminated. Plaintiff's Exhibit P-1, P-2; Amendola Proffer at 14.

Defendant next contends that it did not incur added staffing costs when it went to 24-hour staffing at its WWTPs in 1995 because it moved employees from other parts of its facility to its WWTPs, while it had an overall decrease in union employment. This argument is unpersuasive because even if defendant had transferred existing workers to staff its WWTPs while it had a net decrease in the number of union employees, without 24-hour staffing, the decrease in union employment would have been even greater. Consequently, had the Defendant provided 24-hour staffing during the period 1990 to 1994, it would have incurred an overall increase in employment costs. Amendola Proffer at 17-18; Trial Transcript for 2/7/2001, Doc. No. 321, at 134-37.

Finally, ALC contends that when it went to 24-hour staffing it actually saved money, because 24-hour staffing allowed it to take advantage of upgrades to its facilities that generated cost savings through on-site treatment of waste acids and sludge. That argument is without merit because it ignores the reality that the facilities required to generate the savings were not in place during the period 1990 to 1994. Thus, had ALC properly staffed its WWTPs between 1990 and 1994, then (i) it would have spent more money than it otherwise did during *that same time period*, (ii) it would not have generated savings from facilities not yet built, and (iii) according to both Amendola and Kittenbrink, and based on the record of violations, it would have improved its environmental performance.

2. Vandergrift Upgrade

As discussed above, ALC made a deliberate decision to use the existing WWTP at its Vandergrift facility until 1994, when it was ready to increase steel production. Plaintiff's Exhibit P-278 and P-283. Prior to that upgrade in 1994 (as well as the decision to go to 24-hour staffing), ALC had hundreds of days of violations at the Vandergrift facility. Amendola explained that ALC enjoyed an economic benefit by delaying installation of necessary equipment costing approximately $600,000 at the Vandergrift WWTP. Amendola testified that given the nature of discharges from the Vandergrift facility, the WWTP should have had equalization and two-stage pH controls, as well as process area and effluent diversion tanks. Trial Transcript for 1/16/2001, Doc. No. 307, at 83-85 and 115-117. ALC's expert Charles Blumenschein agrees with Amendola that the facility should have had equalization capabilities, but contends that the A-Sump at the facility functioned as an equalization tank. Trial Transcript for 2/6/2001, Doc. No. 320, at 131. Blumenschein's testimony, however, is based on the testimony of Deborah Calderazzo (id. at 140-146), which is contradicted by numerous contemporaneous documents generated by ALC or its contractors that undermine ALC's claims about the functions of the A-Sump. Amendola Proffer at 9-10; Plaintiff's Exhibit P-1001, P-1039, P-1040, P-1041; Trial Transcript for 2/6/2001, Doc. No. 320, at 131-146. [8]

Furthermore, the most critical point is whether ALC could meet its permit limits, and the record clearly demonstrates that it failed to do so at Vandergrift before the permanent upgrade was completed in 1994. Indeed, for calculating economic benefit, the United States might have pointed to a $1.8 million upgrade considered by ALC in 1988 and 1989, or the entire cost of the $5.7 million upgrade of the Vandergrift WWTP, and argued that money should have been spent in 1990, rather than 1994. But in an approach that is favorable to ALC, Amendola calculated the least costly upgrade in 1994 that would likely have eliminated the violations, and provided a $600,000 alternative. Amendola Proffer at 12-13. The court agrees that this figure is appropriately included in economic benefit, which the government's economic expert, Robert Harris calculates to be $408,000.[9]

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[8] During questioning on February 6, 2001, the court asked ALC if it could provide evidence to rebut this stream of documents. Trial Transcript for 2/6/2001, Doc. No. 320, at 180-186. Though ALC assured the court that it would address the matter, ultimately it did not.

[9] ALC contends that if there were problems, they were cured by the installation of a diversion tank installed in October 1993. That claim is undermined by the fact that there were numerous violations in November and December of that year after installation of that tank, and while Calderazzo now asserts those violations resulted from "shakedown" of the new diversion tank, that assertion is plainly contradicted by contemporaneous documentation. Plaintiff's Exhibit P-272A (attributing violations to a pH upset in the treatment system and to unknown causes). Amendola, having reviewed each of the violations at the Vandergrift plant over the entire period of record, testified that the tank, in and of itself, would not have been adequate to prevent all violations. Trial Transcript for 2/7/2001, Doc. No. 321, at 102-103.

3. Other Wastewater Treatment and Spill Control Projects

Finally, the United States identifies a number of other smaller projects at the WWTPs to prevent spills. These are various projects that were undertaken to replace pipes, repair broken containment and otherwise prevent violations, almost all of which were described by ALC as an "environmental necessity." Amendola Proffer at 18-25. The economic benefit derived from ALC's delay in making expenditures for these projects totals $1,343,000.

The court agrees that it is appropriate to include all of these projects as part of economic benefit. Amendola's analysis identifies each of these projects as being related to areas of the facilities where ALC was violating its permits. Moreover, Amendola relies primarily on contemporaneous documentation by the company identifying the necessity of these projects, and closely linking them to environmental compliance or to permit violations. Amendola Proffer at 18-25; Plaintiff's Exhibits P-295, P-301, P-304, P-306 to P-312, P-315 to P-319, P-321 to P-323. For example, one internal document reflects that a project to upgrade wastewater treatment plant facilities was done because of effluent violations attributed to heavy waste acid, which exceeded wastewater treatment plant neutralization capacity. Plaintiff's Exhibit P-308. Another project considered by Amendola was for repairs to a containment when ALC's internal documents stated that the containment was no longer effective and acid was escaping. Plaintiff's Exhibit P-295. Yet another project reflected that deteriorated liners were replaced with a new material because the liners had allowed acid to reach the affected outfall. Plaintiff's Exhibit P-323. At a broader level, Amendola also demonstrated that ALC's spending on spill control projects increased dramatically around 1995, which coincided with a dramatic improvement in performance. Amendola Proffer at 19; Plaintiff's Exhibit P-1085.

ALC concedes that it is appropriate to include some of these projects, but argues that for others Amendola cannot specifically identify a violation relating to that project. ALC again excludes the nearly 1,000 violations subject to PaDEP enforcement. But we do not agree that such a showing must be made because we are persuaded that these measures were ones that helped ALC ultimately attain compliance. Under ALC's reasoning a company could choose not to spend money on dozens of projects that do prevent spills, realizing that, given the law of averages, violations would occur or be detected only at some of the outfalls relating to those projects. ALC's competitors who did not have violations would have spent money on all such projects. That is not the level economic playing field our Court of Appeals envisioned in Dean Dairy, 150 F.3d at 263-64. Amendola has established sufficient linkage because he has chosen only projects at areas where there were violations and where ALC's internal documents demonstrate defects. Amendola Proffer at 22-25.

4. Discounting Economic Benefit

Having accepted the inputs to economic benefits put forth by the United States, we next turn to the issue of how to determine the economic benefit resulting to ALC. This determination primarily involves the issue of how to discount money. For example, in the case where ALC delayed installation of a project (e.g., $600,000 upgrade at Vandergrift), it ultimately spent the money. Accordingly, it is necessary to use an appropriate discount rate to determine how much money ALC saved by having the use of that $600,000 for an additional four years.

There are two types of economic benefit at issue. The first involves delayed costs (e.g., Vandergrift upgrade), where ALC ultimately implemented the necessary project, but delayed doing so. Since ALC ultimately spent the money, its economic benefit as of the date of non-compliance is the money it saved by delaying the expenditure. The second type is avoided costs (in this case, labor) where ALC never spent the money at issue. In that case, the starting point for analyzing the economic benefit is the amount of money that should have been spent, but was not.

It is also necessary to determine the appropriate discount rate to use to bring the money forward to the penalty payment date. For example, if ALC had an economic benefit of $100,000 as of June 30, 1990 (either because that is the discounted value of a delayed expenditure or because it simply avoided spending that money on, for example, staffing that month), ALC will have had the use of $100,000 for an additional ten years, even though its competitors who complied with the law would not.

We are persuaded that the appropriate discount rate to use is the weighted average cost of capital ("WACC"). This is the approach endorsed by the court in Smithfield, 972 F. Supp. at 349. As the government's economic expert Robert Harris explained, the WACC "represents the rate of return a company must earn annually to continue to attract its current investors and maintain its current levels of operations. It is a rate which is commonly used by companies in making capital budgeting decisions." Harris Proffer at 6.

It is significant to note that ALC's expert, Dr. Howard Pifer, also used the WACC to discount the money backward for purposes of calculating the benefit of non-compliance as of the date of non-compliance.[10] Pifer Proffer at 4. However, Dr. Pifer contends that rather than using the WACC to determine the value of the money going forward to the penalty payment date, we should use the 30-

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10 Dr. Pifer's analysis resulted in a much lower economic benefit number of less than $100,000, which is on its face implausible in light of the dramatic improvements in performance once ALC went to 24-hour staffing and began spending money on various projects. This lower calculation is principally the result of two differences. First, Dr. Pifer's analysis excludes 24-hour staffing as well as almost all of the projects included by Amendola. But Dr. Pifer is not an expert in engineering and did no detailed analysis of these issues. Trial Transcript for 2/8/2001, Doc. No. 322, at 35-37. For part of his opinion he relies on other ALC witnesses to refute Amendola, and we do not find them credible on this issue. The court notes that ALC's engineering expert did no analyses of the other wastewater treatment and spill control projects and offered no opinion on this matter. Second, Dr. Pifer disagrees concerning the appropriate discount rate to use, a point that we take up here.

day treasury bill rate. We reject Dr. Pifer's reasoning as unpersuasive because it fails to take into account the economic reality that ALC had the use of the money for as much as ten years, and there is no evidence that it invested the money in 30 day treasury bills. The key concept ignored by Dr. Pifer is that money is fungible and that once ALC had an economic benefit as of, for example, 1990, we cannot know what happened to those particular dollars. As Harris points out, the funds might have been used for very profitable investments or for less profitable investments. But the WACC offers a reasonable approach for averaging what ALC did with the money.

ALC also contends through Dr. Pifer that if the company knew for certain it would have to pay a penalty, the only way it would be certain to have the money available would be to invest the money in treasury bills. But here, ALC enjoyed economic benefit and did not segregate the money into treasury bills. Indeed, ALC's controller, Dale Reid, testified that ALC has a $150 million note payable in 2025 that it has not invested in treasury bills. Trial Transcript for 2/8/2001, Doc. No. 322, at 31-32.

Dr. Pifer's argument is not supported by the facts. Indeed, were we to adopt ALC's approach we might very well create an economic incentive to violate the law: a company could profit from the spread between its investments, which are inevitably designed to exceed the 30-day treasury rate, and the 30-day treasury rate.

D. Economic Impact of the Penalty

The Court concludes that in light of the financial position of ALC, a penalty of $8,244,670 -- a doubling of economic benefit in this case -- will not have an adverse economic impact on the company. We note, in particular, the strength of the ALC's financial position as reflected in ALC's filings with the Securities and Exchange Commission. ALC's 1999 10-K, the most recent presented at trial, states that the profits for ALC in 1998 and 1999 were $52 million and $37.2 million respectively. Trial Transcript for 2/8/2001, Doc. No. 322, at 25; Plaintiff's Exhibit P-592. ALC's 10-Q, which it filed on November 3, 2000, also contains positive projections for ALC's future growth. Plaintiff's Exhibit P-1063. Indeed, we think it is important to note that ALC's 10-K specifically references this lawsuit and states that "management does not believe the disposition [of this matter] is likely to have a material adverse effect on the company's financial condition or liquidity, although the resolution in any reporting period of one or more of these matters could have a material adverse effect on the Company's results of operation for that period." Plaintiff's Exhibit P-592 at 20.

Indeed, an $8.2 million penalty is small when compared against a number of relevant benchmarks, such as ALC's book value of $635 million and its gross sales of $1.16 billion. Harris Proffer at 19-22. Indeed, it is significant to note that during the period from 1990 to 1994, when ALC should have been making most of the expenditures that are the subject of the economic benefit analysis discussed above, ALC enjoyed a net income of $245 million. Id. at 19. Thus, even during that time period, ALC easily could have afforded to make the necessary environmental expenditures and would have remained very profitable.

ALC has not put forth any evidence suggesting that an $8.2 million penalty would have adverse effects on the company. While Dale Reid, ALC's controller, did testify that the company lost money during 1998 and 1999, we do not give that testimony much weight. To begin with, Reid concedes that those losses are a function of confidential internal adjustments between ALC and its parent, Allegheny Technologies, Inc. Trial Transcript for 2/8/2001, Doc. No. 322, at 27-28. Neither the plaintiff nor the court is in a position to verify the accuracy of this information. By contrast, the 10-K contains a publicly filed representation reflecting substantial profits by the company during the same time period. Second, even the proffer by Reid reflects many years of substantial profits, and he himself does not even suggest that $8.2 million would have any type of material impact.

Finally, and particularly in light of ALC's reliance on internal corporate transfers, it is significant to note the financial strength of Allegheny Technologies, Inc., the parent of ALC. See Dean Dairy, 150 F.3d at 268 (holding that it is appropriate to consider parent's financial condition in assessing a penalty under the Clean Water Act). Reid testified that the sales of ALC comprise approximately 50% of the total sales of Allegheny Technologies, that Allegheny Technologies profits over the two years before trial are in excess of $500 million, and that Allegheny Technologies has spent more than $500 million since 1998 buying back shares of its stock. Trial Transcript for 2/8/2001, Doc. No. 322, at 25, 29, 31. These figures confirm the strong financial position of ALC, as well as that of its parent, and demonstrate that ALC can afford to pay an $8.2 million penalty.

ALC argues that this penalty has a $2.7 million interest component that should be counted against the United States, because it delayed the proceedings by twice amending its complaint and extending discovery. The case has taken a regrettably long time to resolve, but any delays are not attributable solely to the United States. First, as ALC argues elsewhere, its pollution control efforts, not to mention the steelmaking facilities they serve, are large and complex. It would not be surprising that the government would take some time to obtain and analyze the necessary information about them. Second, ALC's own defense has been so rigid, broad, and creative that issues which might otherwise not have appeared, or been resolved by agreement, instead entered the cycles of motion practice. Finally, throughout the pendency of this case the court has experienced seemingly intractable Judge shortages that contribute to delays in the resolution of cases as the docket expands.

E. Other Factors

1. Zinc and ALC's Laboratory Error Defense

ALC claims that all of its violations of zinc effluent limitations are due solely to laboratory error.[11] ALC's in-house laboratory, located in Brackenridge, performed the laboratory analysis for all the mandatory discharge monitoring, including zinc, until ALC retained outside laboratories to perform the zinc analysis in 1997. In February 1997, ALC reported to PaDEP that in 1996 it had sent split samples to outside laboratories and concluded that there was laboratory contamination of acids used to digest the samples at its in-house laboratory. It requested correction of nine specific DMRs. Defendant's Exhibit D-195A. Plaintiff dropped all but two of its claims based on the corrected DMRs from this case, but retained claims for other zinc violations at Brackenridge and West Leechburg/Bagdad.

Nothing in ALC's proffer or testimony on this issue persuades the court that these violations arise solely from laboratory error. Zinc is a toxic metal with potential to harm aquatic life. Diamond Proffer at 6-7. ALC repeatedly certified these DMRs as accurate and testified that its reporting was accurate. Trial Transcript for 2/8/2001, Doc. No. 322, at 189-193. ALC's own reports, submitted at the time of the DMRs, in virtually every instance give detailed engineering or technical explanations for the zinc violations. In a number of cases, there are related violations of TSS limits, for which ALC does not claim laboratory contamination or error and which ALC reported were due to the same equipment breakdown as the zinc violation. Id. at 194-197. Moreover, during the jury phase of the trial, ALC repeatedly touted its in-house laboratory as exemplary, noting its close adherence to EPA quality control procedures and standards. Trial Transcript for 1/22/2001, Doc.

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[11] The parties thoroughly briefed both the law and the facts concerning this asserted defense in the context of summary judgment as to ALC's liability for these violations, and the court relies in large part on that briefing in this decision.

No. 310 at 70-79. It is not credible that laboratory error would persist for the period covered by this litigation, especially where the PaDEP settlements show zinc violations at these outfalls extend as far back as 1991. Plaintiff's Exhibit P-2; see, e.g., Texaco, 800 F. Supp. at 16 (finding "evidence of alleged sampling errors to be weak and incredible"). For all those reasons, the court rejects ALC's claim.

2. Single Operational Upset

The Court of Appeals for the Third Circuit held in Powell Duffryn, 913 F.2d at 77, that a single operational upset must be caused by an "unusual or extraordinary event," and that Congress did not intend that any single discharge which violates several permit parameters should be counted as a single violation. The Court explained that "[t]he statute states that a 'single operational upset," not any 'single non-complying discharge,' should be counted as one violation. While neither the statute nor the legislative history further define 'single operational upset,' we conclude that an 'upset' means some unusual or extraordinary event." Id. The court stated that it was guided by EPA's "reasonable interpretation" of the statutory language, which provides that a single operational upset will not apply to noncompliance "caused by improperly designed or inadequate treatment facilities." Id. As the Court pointed out in Powell Duffryn, EPA's Guidance on Single Operational Upsets "defines an 'exceptional' incident as a 'non-routine malfunctioning of an otherwise generally compliant facility.'" Id.

We reject defendant's argument that the single operational upset defense should apply to any of the violations in this case. First, we have found that the Vandergrift wastewater treatment plant was inadequate; ALC therefore does not qualify for the defense for incidents there. Second, the only testimony concerning this defense came from Calderazzo. However, neither Calderazzo's oral testimony nor her written proffer provide any evidence that the events that led to defendant's violations were "unusual or extraordinary," as required by the Third Circuit in Powell Duffryn. In fact, there is nothing extraordinary about the incidents listed by Calderazzo in her proffer, all of which occurred between 1990 and 1995, and which consist entirely of recurrent and minor equipment failures, such as blocked polymer feed lines, improper or malfunctioning pH control, pump malfunctions, chemical feed system malfunctions, excessive or overflowing solids, and the supposed zinc lab error discussed above. Moreover, the events leading to violations dramatically decreased once proper treatment facilities with full-time operators were put in place.

In contrast, Powell Duffryn lists "a sudden violent storm, or bursting tank, or other exceptional event" as potential instances where a single operational upset may be found to have occurred. Powell Duffryn, 913 F.2d at 77. Given the narrow nature of defenses under the Clean Water Act, the Court's clear holding in Powell Duffryn that a single operational upset must be premised on an extraordinary event and not on an avoidable operational or maintenance problem, the court holds that recurrent permit violations caused by blocked pumps, failure to properly control pH, and malfunctioning feed lines do not qualify as single operational upsets. Indeed, defendant's persistent reliance on this defense in the face of such strong indications that it does not apply leads the court to question the credibility of its defenses in other areas.

III. The Civil Penalty

The Clean Water Act prescribes no particular methods for determining the appropriate civil penalty. As the Court of Appeals for the Third Circuit has noted, some courts use the "top down" approach in which the maximum penalty is set, and reduced as appropriate considering the six enumerated elements of section 1319(d) as mitigating factors. Dean Dairy, 150 F.3d at 265. Other courts employ the "bottom up" approach; in which the economic benefit is established, and the remaining five elements of section 1319(d) are used to adjust that figure upward or downward. Id.

The court of appeals believed that the matter is one of trial court discretion. Id. Since the bottom up approach is the majority view, Dean Dairy, 929 F. Supp. at 806, we will follow it here.

The Clean Water Act's penalty provision is aimed at deterrence with respect to both the defendant's future conduct, and the general population regulated by the Act. Dean Dairy, 929 F. Supp. at 806. To achieve the goal of deterrence, an appropriate penalty must encompass both the economic benefit that the defendant obtained through its noncompliance, and an additional punitive component that takes into account the penalty factors listed in Section 1319(d). Without the second component, those regulated by the Clean Water Act would have nothing to lose by violating it. Id.

We have accepted an economic benefit to ALC of $4,122,335. For a number of reasons we have rejected, ALC contends that the benefit is much lower (proposing a total penalty of $267,098). The statutory maximum penalty is $28.05 million. The United States proposes a total penalty of $12.3 million, or a tripling of the economic benefit. The court will examine the parties' arguments on mitigating or aggravating circumstances in determining the overall penalty, including any punitive portion.

With regard to the seriousness of the violations, ALC asserts that the government proved no actual harm to the rivers in question, and that one-third of the violation came from exceedances of its permit limits for zinc, which arose from laboratory errors, and not actual discharges. The matter of harm is a persuasive mitigating factor, although the court accepted the government's argument that ALC's conduct created a potential for harm. In addition, the court is not convinced that all zinc violations were the result of laboratory error, and must recognize that there were toxic discharges other than zinc. In Powell Duffryn, a 1990 case, ten violations involving toxic substances was accepted as serious, although there also appears to have been proof of harm to the waterway. The court of appeals approved the maximum statutory penalty in Powell Duffryn. In sum, there are not strong mitigating factors concerning the seriousness of the violations.

With regard to the history of violations, ALC argues that its willingness to address environmental problems through its consent agreements with PaDEP, for example, are a significant mitigating factor, and that the law encourages settlements. We think the Act compels us to see this conduct differently. ALC settled 990 violations and paid fines totaling $400,000 in 1992 and 1993. This case involves more than a thousand violations. The Commonwealth's enforcement actions and substantial fines apparently were inadequate to deter continued violations of the Act. See, e.g., Texaco, 800 F. Supp. at 25 ("fact that Texaco has ignored its responsibility to monitor the impact of its violations argues in favor of imposition of a heavier fine"). Even without prior enforcement and its expected corrective effect, seven years of violations alone is a long time under the case law that cannot escape scrutiny. ALC's history of violations weighs substantially against it.

A similar conclusion follows the examination of ALC's good faith efforts to comply. ALC believes it can tap into a finding of good faith by pointing to its generally good compliance record after 1995, its lack of ongoing violations, its substantial expenditures for environmental projects, and its record of keeping promises to regulators. It is difficult to escape the conclusion, however, that this form of good faith sprung not from internal willingness to comply with its statutory obligations, but rather from the more intense government enforcement that need not have been pursued at all had ALC exhibited these tendencies earlier. The testimony of agency personnel about ALC's compliance efforts in the late 1980's to mid 1990's reinforces this conclusion. The good faith element weighs decidedly against ALC.

With regard to the economic impact of the penalty, the steel industry in the United States is undergoing a brutal restructuring, with more than 25 U.S. steelmakers seeking bankruptcy protection

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since 1997. The evidence introduced at trial, however, did not demonstrate that a substantial penalty would damage the overall health of ALC. Courts have looked at a number of measures of company wealth and ability to pay penalties, including assets of a parent company, Dean Dairy, 150 F.3d at 268-69, and stockholders' equity, Smithfield, 972 F. Supp. at 353. This element does not suggest mitigation.

With regard to other matters that justice may require, ALC has argued that it is responsible for five steel mills and six wastewater treatment plants, a level of complexity that distinguishes it from violators in other reported cases. This is an objective argument with some appeal, but it is rebutted by defendant's long history of violations, and by the notion that large businesses usually have or find correspondingly large amounts of resources to address their legal obligations. In addition, ALC's persistent reliance on the implausible single operational upset defense tends to cancel out its laboratory error defense. We find it hard to assign much credibility to the testimony about such a longstanding problem with its lab operations, with so much potentially at stake, when ALC's judgment in pursuing another regulatory defense is so obviously flawed. We also are not persuaded that the length of time it took EPA to approve its permit applications is a mitigating factor for ALC.

While the Court recognizes that ALC ultimately did take steps to achieve compliance, we find that ALC should have taken these measures in the 1980's, instead of in response to steadily increasing enforcement actions. Given ALC's record from the late 1980's through approximately 1995 or 1996, the factors of history of violations and good faith efforts to comply warrant a significant upward adjustment of the penalty.

Given the six statutory factors to consider and the variations they represent, penalties under the Act can be analyzed in no other way than case-by-case. We are nonetheless bound to follow

Third Circuit precedent to the extent it sets forth rules of decision, and consider it advisable to be sensitive to the court's tendencies even when not setting binding rules. For the same reason, decisions from district courts within the circuit offer guidance that typically is more useful than decisions from other courts.

The precedents most relevant here are Dean Dairy and Powell Duffryn. In Dean Dairy, the court of appeals approved a doubling of economic benefit for a total penalty of $4,031,000. In Powell Duffryn, the court approved the statutory maximum penalty of $4,205,000.[12] That case was decided in 1989, based on 386 violations that occurred before 1986.[13]

ALC wishes to distinguish Powell Duffryn because the permittee there ignored a court injunction, and earned harsh language from the court about its inattention to its polluting discharges. The company tries to make the same point with regard to Dean Dairy, which the district court labeled as being "essentially indifferent to its violations of the Clean Water Act." 929 F. Supp. at 808. While we hesitate to assign such severe characterizations to ALC's conduct, the length of time over which the violations occurred, the continued violations after enforcement by Commonwealth officials in 1992 and 1993, and the consistent damaging testimony of agency and other witnesses does not draw as sharp a contrast as ALC suggests.

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12 The district court had initially reduced this penalty by $1,000,000 on the basis of "actions and/or non-actions taken on behalf of the United States Environmental Protection Agency and the New Jersey Department of Environmental Protection." 913 F.2d at 80. The Third Circuit reversed on this point. Id. at 81.

13 Looking at another court of appeals, a tripling of economic benefit was approved in the recent past by the Fourth Circuit. See United States v. Smithfield Foods, Inc., 191 F.3d 516, 528-29 (4th Cir. 1999), cert. denied, 531 U.S. 813 (2000).

Both sides submitted extensive helpful analyses of the case law on penalty, essentially in spreadsheet form, apart from their briefs and proposed decisions. ALC takes the tack of seeking to establish a dollar value per violation, and showing the number of decisions that arrived at penalties in the hundreds of dollars per violation. Such an approach may be permissible and useful in some circumstances, see Texaco, 800 F. Supp. at 27, but it was not used in the cases most relevant to this one. We have considerable discretion in choosing the most appropriate method of calculating a penalty, and will follow the formulas used in Powell Duffryn and Dean Dairy.

In accordance with the foregoing, the court will use a multiplier of the economic benefit to represent the deterrent and punitive component of the penalty. The court finds that an appropriate civil penalty for ALC's permit violations and violations of the Act is two times the economic benefit, or $8,244,670 million.

An order consistent with this memorandum opinion will be entered.

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IN THE UNITES STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA,	)	
Plaintiff,	)	
v.	)	Civil Action 95-990
ALLEGHENY LUDLUM CORPORATION,	)	
Defendant.	)	

ORDER

This action under the Clean Water Act, 33 U.S.C. § 1251 et seq., came before the court for trial by jury on liability and trial on penalty to the bench. In accordance with the accompanying memorandum opinion, judgment shall be entered in favor of the United States and against Allegheny Ludlum Corporation in the amount of $8,244,670.

The Clerk is directed to mark this file closed.

SO ORDERED this 19 day of February 2002.

Robert J. Cindrich
ROBERT J. CINDRICH
United States District Judge

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cc:

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